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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,244	12/19/2005	Shmuel Bukshpan	85189-10000	1608

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EXAMINER	
KUNEMUND, ROBERT M	
ART UNIT	PAPER NUMBER
1792	
MAIL DATE	DELIVERY MODE
05/28/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/561,244	BUKSHPAN, SHMUEL	
	Examiner	Art Unit	
	Robert M. Kunemund	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *81-142* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *108-121* is/are allowed.

6)☒ Claim(s) *81-90, 92-94, 96, 98-107, 122-124, and 125-142* is/are rejected.

7)☒ Claim(s) *91,95,97 and 125* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 88 to 90, 92 to 94, 98 to 100, 107, 122, 123 and 126 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craig et al (5,525,198).

The Craig et al reference teaches a crystalline of biomolecules using electricity, note entire reference. In a reactor, a buffer solution is placed, note examples. The buffer has a pH. Then the material to be crystallized is feed into the reactor. The two solutions are mixed. An electrical current is then passed through the solution to crystallize the biomolecular compounds, note col. 3. The compounds can be protein or nucleic acids, note col. 2. The crystals are the collected. The sole difference between the instant claims and the prior art is the pI. However, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to determine through routine experimentation the optimum, operable pI to the pH in the Craig et al reference in order to allow for proper crystallization due to the electrical current.

Claims 127 and 129 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craig et al (5,525,198) in view of Sanjoh (6,174,365).

The Craig et al reference is relied on for the same reasons as stated, supra, and differs from the instant claims in the use of a substrate. However, the Sanjoh reference

teaches the use of substrates when crystallizing biomolecules out of solution, note figures. It would have been obvious to one of ordinary skill in the art to modify the Craig et al reference by the teachings of the Sanjoh reference to use a substrate in order to accelerate crystallization.

Claims 96, 106, 128 and 130 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craig et al (5,525,198) in view of Sanjoh (6,174,365).

The Craig et al and Sanjoh references are relied on for the same reasons as stated, supra, and differ from the instant claims in the different reactor types. However, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to determine through routine experimentation the optimum, operable reactor types in the Craig et al reference in order to increase control over crystallization.

Claims 101 to 105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craig et al (5,525,198) in view of Sanjoh (6,174,365) and Arnowitz et al (2004/0033166).

The Craig et al and Sanjoh references are relied on for the same reasons as stated, supra, and differ from the instant claims in the plurality of reactors. However, the Arnowitz et al reference teaches protein growth in a plurality if reactors, note figures. It would have been obvious to one of ordinary skill in the art to modify the Craig et al reference by the teachings of the Arnowitz et al reference in use multiple reactors in order to increase production.

Claims 131 to 142 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craig et al (5,525,198) in view of Sanjoh (6,174,365) and Arnowitz.

The Craig et al, Arnowitz and Sanjoh references are relied on for the same reasons as stated, supra, and differ from the instant claims in the different reactor materials. However, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to determine through routine experimentation the optimum, operable reactor materials in the Craig et al reference in order to decrease impurities in the final product.

Claims 91, 95, 97, 124 and 125 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Applicants' Arguments

Applicant's arguments filed March 17, 2008 have been fully considered but they are not persuasive.

Applicants' argument concerning the Craig reference is noted. However, the reference does teach using electricity to a solution, concentrating and crystallizing. The reference discusses that when the electric field in applied the material concentrates. Claim 88 does not set forth any type of field or power. There is no limitation in the claim that the one does not use electrorheology or does use isoelectric field. The Craig reference does teach the addition of a buffer to the solution. It is well within the skill of the art to use of buffer that that encompasses the pI of the biomolecule.

Applicants' argument concerning the Sanjoh reference has been considered and not deemed persuasive. The claims are not as limited in scope as argued by applicants. The reference does teach the claimed apparatus structure of claims of 127 and 129. The Snajoh reference teaches to one of ordinary skill in the art the advantages of having a substrate during growth and gives reasons to modify the Craig.

Applicants' argument concerning the Arnowitz et al reference is noted. However, the reference besides teaching monitoring means teaches using more the one crystallization chamber. The prior art can teach more then to one of ordinary skill in the art then what is claimed. The Arnowitz et al reference teaches to one of ordinary skill in the art that one can use more then one crystallization chamber and change the contents in order to create more crystals. It is noted, that applicants are merely adding more crystallizers.

Applicants' argument concerning claims 96, 106, 128 and 130 to 142 has been considered and not deemed persuasive. It is well within the skill of the art to use materials that will not react or poison the solution and that can withstand the processing. One of ordinary skill is not going to use materials that are going to ruin the process. Also, the different reactors types are known in the art and it is within the skill to use known reactors that meet the processing parameters.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M. Kunemund whose telephone number is 571-272-1464. The examiner can normally be reached on 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on 571-272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Robert M Kunemund
Primary Examiner
Art Unit 1792

RMK

/Robert M Kunemund/
Primary Examiner, Art Unit 1792